AIR QUALITY PERMIT

Issued To: The Western Sugar Cooperative
7555 E. Hampden Ave., Suite 600
Denver, CO 80231

Permit: #2912-03
Modification Request Received: 07/30/03
Preliminary Decision on Modification: 09/03/03
Department Decision on Modification: 10/27/03
Permit Final: 11/13/03
AFS: #111-0007

An air quality permit, with conditions, is hereby granted to The Western Sugar Cooperative (WSC), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

WSC operates a sugar beet processing facility in Billings, Montana. The legal description of the facility is the Northeast ¼ of Section 10, Township 1 South, Range 26 East, in Yellowstone County, Montana.

B. Current Permit Action

On July 30, 2003, the Department of Environmental Quality (Department) received a complete application from Bison Engineering, Inc. on behalf of WSC for the modification of the diffuser at WSC's facility. The existing slope diffuser will be replaced with a more efficient tower diffuser. Although the diffuser is not an emitting unit, the diffuser has the potential to affect the downstream emitting units (pressed pulp dryers and pelletizer cooler). Therefore, WSC requested federally enforceable throughput limits on the pressed pulp dryers and the pelletizer cooler that would limit potential emissions levels below Prevention of Significant Deterioration (PSD) significance levels. The current permit action updates the permit analysis to reflect the change.

SECTION II. Conditions and Limitations

A. Emission Limitations

1. WSC shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

2. WSC shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

3. WSC shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

4. WSC shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749).

5. Combined emissions of sulfur dioxide (SO_2) from the east dryer stack and west dryer stack shall not exceed 88.5 pounds per 3-hour period (Stipulation agreement between the Department and WSC).

6. Combined emissions of SO_2 from the east dryer stack and west dryer stack shall not exceed 708.0 pounds per calendar day (Stipulation agreement between the Department and WSC).

7. Combined emissions of SO_2 from the east dryer stack and west dryer stack shall not exceed 148,680 pounds per calendar year (Stipulation agreement between the Department and WSC).

8. Emissions of SO_2 from the boiler house stack shall not exceed 856.2 pounds per 3-hour period (Stipulation agreement between the Department and WSC).

9. Emissions of SO_2 from the boiler house stack shall not exceed 6,849.6 pounds per calendar day (Stipulation agreement between the Department and WSC).

10. Emissions of SO_2 from the boiler house stack shall not exceed 1,438,416 pounds per calendar year (Stipulation agreement between the Department and WSC).

11. The total combined throughput for the east dryer and west dryer shall not exceed 188,000 tons of pressed pulp during any rolling 12-month time period (ARM 17.8.749).

12. The total throughput for the pelletizer cooler shall not exceed 75,000 tons of pellets during any rolling 12-month time period (ARM 17.8.749).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

2. The Department may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. WSC shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. WSC shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745(1), that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. WSC shall document, by month, the total combined throughput for the east dryer and west dryer. By the 25th day of each month, WSC shall sum the total combined throughput for the east dryer and the west dryer during the previous 12 months to verify compliance with the limitation in Section II.A.11. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).

4. WSC shall document, by month, the total throughput for the pelletizer cooler. By the 25th day of each month, WSC shall sum the total throughput for the pelletizer cooler during the previous 12 months to verify compliance with the limitation in Section II.A.12. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection – WSC shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if WSC fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving WSC of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders it's decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by WSC may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Permit Analysis
The Western Sugar Cooperative
Permit #2912-03

I. Introduction/Process Description

A. Permitted Equipment

The Western Sugar Cooperative (WSC) processes sugar beets into refined sugar, molasses, pulp, and pellets. WSC's sugar beet processing facility is located at 3020 State Avenue, Billings, Montana. A summary of the facility equipment and pollution control devices is contained in Table 1.

Table 1

Description	Pollution Control Device/Practice
132 MMBtu/hr Erie City Boiler #1	Natural Gas Fuel Only
Boiler House Stack, (148 MMBtu/hr Riley Boilers; #2, #3, and #4)	Wet Scrubber, Mist Eliminator, Multicyclones
17 MMBtu/hr Clever Brooks Boiler #5	Natural Gas Fuel Only
26.6 MMBtu/hr Pulp Dryers	Wet Scrubber, Mist Eliminator, Multicyclones
Pellet Mills/ Conveyor	Multiple Cyclones
Pelletizer-Cooler	Multiple Cyclones
(2) Air Dryers	Wet Scrubber
(1) Steam Sugar Granulator	Baghouse
(1) Steam Sugar Granulator	Baghouse
Lime Slaker Vent	Wet Scrubber
Burnt Lime Collector	Baghouse
Truck Hauling-Fugitives	Water Spray
Warehouse Sugar Dust Collector	Dust Collector is Control Device

B. Source Description

WSC processes sugar beets into refined sugar, molasses, pulp, and pellets. Sugar beets are received at the plant by truck and are screened and washed to remove materials such as dirt, mud, rocks, and leaves. The beets are then either fed into the plant for processing or stockpiled for future use. Processing of the beets begins by slicing them into long thin strips, referred to as cossettes. The cossettes are conveyed into a diffuser where the beet sugar is removed using heated water. When the sugar solution leaves the lower end of the diffuser it is known as "raw juice." However, when the cossettes reach the upper end of the diffuser, it is free of most sugar and the cossettes become beet pulp, which is used for livestock feed. Upon leaving the diffuser, the "raw juice" goes through several purification and filtration stages to remove impurities and other non-sugars and is sent to evaporators to remove excess water. This concentrated juice is crystallized and separated into pure sugar and molasses. The two by-products of this process, molasses and pulp, are mixed together to create pellets and are sold as livestock feed. Shipment of the products is performed using both rail and truck.

C. Permit History

On May 11, 1971, Permit #**286-073071** was issued to The Western Sugar Company to install a 2000-gallon per minute (gal/min) wet scrubbing system on the existing cyclone dryer stacks.

On July 10, 1972, Permit #**485-092672** was issued to The Western Sugar Company to install a wet scrubber system on the west drum pulp dryer cyclone.

On June 29, 1976, Permit #**913** was issued to Western Sugar Company for the conversion of 3 Riley 100,000 pound per hour (lb/hr) natural gas fired steam generators (Riley #2, Riley #3, and Riley #4) to coal stoker firing.

On July 26, 1978, Permit #**1227** was issued to Western Sugar Company to install Multi-cyclones on the 3 coal fired boilers (Riley #2, Riley #3, and Riley #4).

On June 9, 1996, Western Sugar Company was issued Permit #**2912-00** to construct the boiler house stack extension that would extend the stack to at least 51.8 meters above ground level (Permit #2912-00 replaced Permit #286, #485, #913, and #1227). However, during a routine site visit, the Montana Department of Environmental Quality (Department) noted an economizer on the boiler house stack that was put there by Western Sugar Company in an effort to minimize the amount of heat that was vented through the stack. The economizer influenced the characteristics of the plume emitted from the stack and was installed without notifying the Department. As a result, the stipulation agreement between the Department and Western Sugar Company was readjusted to account for the changed characteristics of the exit gas plume. The changed conditions of the stipulation were as follows: the boiler house stack must be raised to a minimum height of 54.9 meters instead of the original 51.8 meters. Originally, the boiler house stack was 120 feet tall and the extension would add another 60 feet that would produce a total stack height of 180 feet (54.9 meters) above ground level. As part of the 1995 proposed Billings/Laurel SO_2 State Implementation Plan, Western Sugar Company and the Department stipulated that Western Sugar Company shall extend the height of the boiler house stack to at least 54.9 meters to receive Good Engineering Practices (GEP). In addition to the boiler house stack extension, Western Sugar Company agreed to accept lower emission limitations for sulfur dioxide (SO_2) as follows:

1. Combined 3-hour emissions of SO_2 from the east dryer stack and west dryer stack shall not exceed 88.5 pounds per 3-hour period;

2. Combined daily emissions of SO_2 from the east dryer stack and west dryer stack shall not exceed 708.0 pounds per calendar day; and

3. Combined annual emissions of SO_2 from the east dryer stack and west dryer stack shall not exceed 148,680 pounds per calendar year.

On June 12, 1998, an agreement between the Department and Western Sugar Company was completed. The June 12, 1998, Stipulation (STIP) identifies specific emission limitations, monitoring, and reporting requirements that were established through the agreement. Permit #2912-00 replaced Permit #286, #485, #913, and #1227.

On May 17, 2002, the Department received a request from Western Sugar Company to modify Permit #2912-00. The Western Sugar Company proposal requested that Permit #2912-00 be updated to reflect the name change from Western Sugar Company to Western Sugar Cooperative. In addition, the permit analysis was updated to reflect the de minimis change of replacing a wet scrubber on one of the two cooling sugar granulators with a more efficient baghouse. Further, the permit was updated to reflect the most up-to-date permit language. On August 2, 2002, Permit **#2912-01** replaced Permit #2912-00.

On June 23, 2003, the Department received a de minimis notification from WSC. The change involved replacing the wet scrubber on the second cooling sugar granulator with a more efficient baghouse. The permit action updated the permit analysis to reflect the change and updated the facility's mailing address. In addition, the permit format, language, and rule references were updated to reflect the Department's current permit format, language, and rule references. Permit #**2912-02** replaced Permit #2912-01.

D. Current Permit Action

On July 30, 2003, the Department received a complete application from Bison Engineering, Inc. on behalf of WSC for the modification of the diffuser at WSC's facility. The existing slope diffuser will be replaced with a more efficient tower diffuser. Although the diffuser is not an emitting unit, the diffuser has the potential to affect the downstream emitting units (pressed pulp dryers and pelletizer cooler). Therefore, WSC requested federally enforceable throughput limits on the pressed pulp dryers and the pelletizer cooler that would limit potential emissions levels below PSD significance levels. Permit **#2912-03** replaces Permit #2912-02.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   WSC shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

WSC must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. (1) This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes. (2) This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, WSC shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). The WSC facility is not an NSPS affected source because the steam generation boilers were installed prior to the applicability dates of 40 CFR 60, Subparts D, Da, Db, and Dc. In addition, the heat input rates for the steam generation units are less than the applicable requirements in 40 CFR 60, Subparts D, and Da.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. The current permit action replaces an existing slope diffuser with a more efficient tower diffuser. WSC submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. WSC has the potential to emit more than 25 tons per year of PM, PM_{10}, NO_x, CO, VOC, and SO_x; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration or use of a source. The current permit action replaces an existing slope diffuser with a more efficient tower diffuser. WSC submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. WSC submitted an affidavit of publication of public notice for the July 27, 2003, issue of the Billings Gazette, a newspaper of general circulation in the City of Billings, MT in Yellowstone County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving WSC of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

WSC's facility in Billings, Montana is defined as a major stationary source because it is a listed source with the PTE more than 100 tons per year of one or more criteria pollutants. The current permit action will allow WSC to replace an existing slope diffuser with a more efficient tower diffuser. Although the diffuser is not an emitting unit, WSC has requested federally enforceable production limits on the downstream emitting units (pulp dryers and pelletizer cooler) to keep the potential emissions from the project below PSD significance thresholds. WSC also requested that the Department look at a two-year period other than the two years immediately preceding this permit action. The Department reviewed information submitted by WSC and determined that the 1999 and 2000 years were more representative of normal source operation. Therefore, the Department compared past actual emissions from the 1999 and 2000 years to future potential emissions in making a determination on this project. In addition, the Department and WSC agreed on the appropriate emission factors for the calculations. The future potential emissions were determined using WSC's proposed throughput rates. Since the difference between the future potential emissions and the past actual emissions was below the PSD significant threshold limits, the WSC proposed throughput rates were considered acceptable to the Department.

The following table summarizes the past actual emission rates, the future potential emission rates, and the PSD significance levels associated with each pollutant.

Parameter	Emission Rates (ton/yr)					
	CO	**NO_x**	**PM_{10}**	**PM**	**SO_2**	**VOC**
Future Potential Emissions	1.36	6.82	7.07	69.57	0.04	19.36
Past Actual Emissions	1.36	6.82	2.23	44.78	0.04	7.28
Difference	0.00	0.00	4.84	24.79	0.00	12.08
PSD Significant Emissions Increase	100	40	15	25	40	40
PSD Significance Exceeded?	No	No	No	No	No	No

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

a. PTE > 100 tons/year of any pollutant;

b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2912-03 for WSC, the following conclusions were made:

   a. The facility's PTE is greater than 100 tons/year for PM, PM_{10}, NO_x, CO, and SO_x.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is not subject to any current NSPS.

   e. This facility is not subject to any current NESHAP standards.

   f. This source is not a Title IV affected source, nor a solid waste combustion unit.

   g. This source is not an EPA designated Title V source.

   Based on these facts, the Department determined that WSC is subject to the Title V Operating Permit program. WSC's Title V Operating Permit #OP2912-01 became final and effective on September 26, 2002. The Department will prepare a significant modification to Title V Operating Permit #OP2912-01 to incorporate the changes from the current permit action.

III. BACT Determination

A BACT determination is required for each new or altered source. WSC shall install on the new or altered source the maximum air pollution control capability, which is technically feasible and economically practicable, except that BACT shall be utilized. The current permit action replaces an existing slope diffuser with a more efficient tower diffuser. The diffuser is not an emitting unit; therefore, the current permit action does not require a BACT determination. Although a potential emissions increase may result from the proposed permit action, the increased emissions would occur at downstream emitting units that are not subject to BACT under this permit action.

IV. Emission Inventory

	Pollutants (ton/yr)					
Source	PM	PM_{10}	NO_x	VOC	CO	SO_x
Erie City Boiler #1	1.64	1.64	299.99	0.76	21.82	0.33
Boiler Stack	324.77	324.77	879.33	3.21	320.92	709.88
C. B. Boiler #5	0.96	0.96	9.83	0.20	2.46	0.04
Combined East & West Pulp Dryer Stacks	64.39	5.98	6.82	19.36	1.36	0.04
Pellet Mill/Conveyor	10.58	10.58	---	---	---	---
Pelletizer-Cooler	5.18	1.09	---	---	---	---
Steam Heated Sugar Granulators	0.70	0.70	---	---	---	---
(2) Air Drying Sugar Granulators	4.74	4.74	---	---	---	---
Coke or Coal fired Lime Kiln	0.06	0.06	0.01	---	0.02	0.03
Burnt Lime Collector	5.04	5.04	---	---	---	---
Lime Slaker Vent	1.44	1.44	---	---	---	---
Coke Handling	1.31	0.66	---	---	---	---
Coke Coal Handling – Fugitives	1.31	0.66	---	---	---	---
Limestone Handling – Fugitives	1.31	0.66	---	---	---	---
Wind Erosion – Fugitives	5.00	2.50	---	---	---	---
Truck Handling – Fugatives	10.02	4.51	---	---	---	---
Total Emissions	438.45	36.99	1195.98	23.53	346.58	710.32

Source: Title V Air Quality Permit Application

V. Existing Air Quality and Impacts

WSC is located in the Northeast ¼ of Section 10, Township 1 South, Range 26 East, in Yellowstone County, Montana. The airshed in this area is currently unclassified for SO_2 but Montana is in the process of revising the SO_2 SIP. The Department previously conducted air dispersion modeling and the results from the model showed no adverse impact on the air quality in the region. The emissions generated by this facility and conditions established in Permit #2912-03 will limit the amount of controlled emissions from this operation and will not cause concentrations of pollutants to exceed the ambient air quality standards.

VI. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air and Waste Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: The Western Sugar Cooperative

Air Quality Permit number: 2912-03

Preliminary Determination on Modification Issued: 09/03/03
Department Decision Issued: 10/27/03
Permit Final: 11/13/03

1. Legal Description of Site: WSC operates a sugar beet processing facility in Billings, Montana. The legal description of the facility is the Northeast ¼ of Section 10, Township 1 South, Range 26 East, in Yellowstone County, Montana.

2. Description of Project: WSC proposes to replace an existing slope diffuser with a more efficient tower diffuser.

3. Objectives of Project: The objective of this project is to replace the existing slope diffuser, which is nearing the end of its useful life, with a more efficient tower diffuser. WSC has evaluated repair of the existing diffuser and found that it is more economically prudent to replace the diffuser than to repair it. The added efficiency of the tower diffuser will manifest itself in a decrease of water usage, a decrease in campaign length, increased sugar recovery, and potentially a decrease in emissions.

4. Alternatives Considered: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because WSC demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. A Listing of Mitigation, Stipulations, and Other Controls: A list of enforceable conditions would be included in Permit #2912-03.

6. Regulatory Effects on Private Property: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and to demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

Minor, if any, impacts on terrestrial or aquatic life and habitats would be expected from the proposed project because the proposed project is a modification to an existing facility located in an industrial section of the city. In addition, the proposed project would only increase the facility's potential to emit by a relatively small amount, if any. While air emissions from the facility may increase due to the proposed project and a corresponding increase in deposition of pollutants may occur (as described in Section 7.F. of this EA), the Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be included in Permit #2912-03.

B. Water Quality, Quantity and Distribution

Although the proposed project may result in increased air emissions, there would be minor, if any, impacts on the water quality, quantity, and distribution in the area of the facility because the proposed project would only increase the facility's potential to emit by a relatively small amount, if any. While air emissions from the facility may increase, and corresponding deposition of pollutants may occur (as described in Section 7.F. of this EA), the Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be placed in Permit #2912-03. Further, the proposed project would not require any additional water usage by the facility; therefore, any impacts on water quality, quantity, or distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

Minor, if any, impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because the project would take place at an existing facility located within a previously disturbed area and because the proposed project may only increase the facility's potential to emit by a relatively small amount. While air emissions from the facility may increase due to the proposed project, and a corresponding increase in deposition of pollutants may occur (as described in Section 7.F. of this EA), the Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be included in Permit #2912-03.

D. Vegetation Cover, Quantity, and Quality

Minor, if any, impacts would occur on vegetation cover, quantity, and quality because the proposed project would take place at a facility located within a previously disturbed area. While air emissions from the facility may increase due to the proposed project, and a corresponding increase in deposition of pollutants may occur (as described in Section 7.F. of this EA), the Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be included in Permit #2912-03.

E. Aesthetics

The proposed project would be visible and would create additional noise in the area. However, the proposed project would take place at an existing facility located within a previously disturbed area and the proposed project would be a relatively small addition to the facility. In addition, Permit #2912-03 would include conditions to control emissions, including visible emissions, from the facility. Therefore, the Department determined that any aesthetic impact to the area would be minor.

F. Air Quality

Air quality impacts from the proposed project would be minor because the proposed project would take place at an existing facility and may only increase the facility's emissions by a relatively small amount. Deposition of pollutants may occur as a result of the proposed project; however, the Department determined that any air quality impacts from deposition would be minor due to dispersion characteristics of pollutants (stack height, stack temperature, etc.), the atmosphere (wind speed, wind direction, ambient temperature, etc.), and conditions placed in Permit #2912-03. WSC has also requested federally enforceable production limits that would limit emissions from the proposed project. Furthermore, the increased efficiency of the tower diffuser has the potential to decrease boiler demand, which may correspond to a decrease in coal combustion and associated emissions.

G. Unique Endangered, Fragile, or Limited Environmental Resources

There may be an increase in emissions in the area where the facility is located, which may result in minor impacts to existing unique endangered, fragile, or limited environmental resources in the area. However, the proposed project will take place at an existing facility that is normally used for such activities. Therefore, the Department determined that any impacts to unique endangered, fragile, or limited environmental resources would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

Although the proposed project may require additional quantities of water and air during the construction phase of the project, these quantities should return to normal once the diffuser is operating. In fact, the new diffuser with its added efficiency should decrease water usage and boiler demand, which may correspond to a decrease in coal combustion and associated emissions. This decrease would reduce the facilities consumption of non-renewable resource such as coal. While air emissions from the facility may increase due to the proposed project, and a corresponding increase in deposition of pollutants may occur (as described in Section 7.F. of this EA), the Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be included in Permit #2912-03. Overall, the demands on the environmental resource of water, air, and energy would be minor.

I. Historical and Archaeological Sites

The proposed project may increase emissions in the area where the facility operates, which could result in minor impacts to existing historical and archaeological sites in the area. However, the facility is an existing facility and is located within an area that is normally used for such activities. Therefore, there would be a low likelihood of disturbance to any known archaeological or historical site given the previous industrial disturbance in the area of operation and the chance of impacting any historical and archaeological sites would be minor.

J. Cumulative and Secondary Impacts

The proposed project would cause minor effects on the physical and biological aspects of the human environment because the project would generate emissions of particulate matter, PM_{10}, NO_x, CO, SO_x, and VOC. Conditions that would be placed in Permit #2912-03 would ensure that no air quality impacts, other than minor air quality impacts, would occur. Noise impacts would be minor during the construction phase. The noise impacts would be temporary because once the new diffuser is installed the facility will return to normal operation. Limitations would be established in Permit #2912-03 to minimize air pollution. Overall, any impacts to the physical and biological environment would be minor.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities			X			Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals				X		Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The proposed project would not cause any disruption to native or traditional lifestyles or communities (social structures and mores) because the proposed project would take place at an existing facility located within an industrial area and because the proposed project may only increase the facility's potential to emit by a relatively small amount. The predominant use of the proposed area of operation would not change as a result of issuing Permit #2912-03.

B. Cultural Uniqueness and Diversity

The proposed project would not impact the cultural uniqueness and diversity of the proposed area because the proposed project would take place at an existing facility located within an industrial area and because the proposed project may only increase the facility's potential to emit by a relatively small amount. The predominant use of the proposed area of operation would not change as a result of issuing Permit #2912-03.

C. Local and State Tax Base and Tax Revenue

The proposed project would have minor, if any impacts on local and state tax base and tax revenue because the proposed project would take place at an existing facility. No additional full time or permanent employees would be expected to be hired as a result of issuing Permit #2912-03. In addition, any revenue created by the proposed project would be widespread.

D. Agricultural or Industrial Production

The proposed project would take place at an existing facility located in a previously disturbed industrial area typically used for such operations. Therefore, the Department would not expect that the facility would affect or displace any agricultural land or production. Overall, any impacts to agricultural or industrial production would be minor.

E. Human Health

Permit #2912-03 would incorporate conditions to ensure that the proposed project, as well as the entire facility, would be operated in compliance with all applicable rules and regulations. These rules and regulations are designed to be protective of human health. As described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be included in Permit #2912-03. Pollution controls and opacity limitations on the facility would minimize the air emissions from this facility. Therefore, any impacts to human health would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would not affect any access to recreational and wilderness activities because the proposed project would take place at an existing facility located in a previously disturbed industrial area typically used for such operations. In addition, the proposed project would have minor impacts on the quality of recreational activities because the noise and emissions generated by the proposed project would represent a relatively small increase in noise and emissions from the facility. Overall, the proposed project would result in only minor impacts to access to and quality of recreational and wilderness activities.

G. Quantity and Distribution of Employment

Given the fact that the proposed project would take place at an existing facility, the quantity and distribution of employment in the area would not be affected. No full time, permanent employees would be expected to be hired or discharged as a result of issuing Permit #2912-03. The proposed project would not result in any impact to the quantity and distribution of employment in the proposed area of operation.

H. Distribution of Population

Given the fact that the proposed project would take place at an existing facility located within a previously disturbed industrial area, the proposed project would not disrupt the normal population distribution of the area. Further, the proposed project would not create new employment opportunities with WSC or with any surrounding businesses, so a change in population distribution would not occur.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permit for the proposed project and ensuring compliance with the permit that would be issued. However, the government services required for issuing the permit would be minor. In addition, the government services required to ensure compliance with the permit would be minor because government services are currently required to ensure the facility is in compliance with it's current permit. Overall, the demands for government services would be minor.

J. Industrial and Commercial Activity

The proposed project may represent a minor increase in the industrial activity in the area during construction of the project, but no additional industrial or commercial activity would result solely from the operation of the facility. Any impacts to industrial and commercial activities in the area would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals that would be affected by issuing Permit #2912-03. Portions of Yellowstone County are designated as non-attainment for SO_2 and CO, but the WSC facility is located outside these non-attainment areas. Further, the state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, impacts to the social and economic aspects of the human environment from this project would be minor because new businesses would not be drawn to the area and permanent jobs would not be created or lost due to the proposed project. Because no new employees would be hired by the facility, there would be no economic impacts from new employees. Therefore, any social and economic impacts would be minor.

Recommendation: No EIS is required.

The current permitting action is for the replacement of an existing slope diffuser with a more efficient tower diffuser at an existing facility. Furthermore, Permit #2912-03 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air and Waste Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Carson Coate
Date: August 27, 2003